



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/599,338	11/07/2006	Nicholas Robert Harris	CPAGE.00015	7125
22858	7590	03/30/2009		
CARSTENS & CAHOON, LLP P O BOX 802334 DALLAS, TX 75380			EXAMINER MULLINS, BURTON S	
			ART UNIT 2834	PAPER NUMBER
			MAIL DATE 03/30/2009	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/599,338	<b>Applicant(s)</b> HARRIS ET AL.	
	<b>Examiner</b> BURTON MULLINS	<b>Art Unit</b> 2834	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 06 March 2009.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-4,6-23 and 25-31 is/are pending in the application.
- 4a) Of the above claim(s) 11-23 and 25-31 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,4,8 and 9 is/are rejected.
- 7) ☒ Claim(s) 2,3,6,7 and 10 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>10/07</u> .   | 6) <input type="checkbox"/> Other: _____                          |

Art Unit: 2834

## **DETAILED ACTION**

### ***Election/Restrictions***

1. Applicant's election with traverse of Group I, Species Group (i), the reply filed on 03 March 2009 is acknowledged. No specific grounds for the traversal was given. The requirement is still deemed proper and is therefore made FINAL. Claims 11-23 and 25-31 are withdrawn from further consideration pursuant to 37 CFR 1.142(b). Claims 5, 24 and 32-41 are canceled. Claims 1-4 and 6-10 are examined on the merits.

### ***Priority***

2. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

### ***Information Disclosure Statement***

3. The information disclosure statement (IDS) submitted on 31 October 2007 has been considered by the examiner.

### ***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Art Unit: 2834

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 1 and 8-9 are rejected under 35 U.S.C. 102(b) as being anticipated by Fujii (JP 2001-086723). Fujii teaches an electromagnetic generator comprising two magnets 14 and a coil 13 disposed therebetween (Fig.3), the two magnets 14 being configured to define therebetween a region of magnetic flux in which the coil 13 is disposed whereby relative movement between the coil and the magnets generates an electrical current in the coil (abstract), and a vibratable first mount 6/7 for each of the magnets 14 and a vibratable second mount 12 for the coil 13 whereby each of the at least two magnets and the coil are respectively vibratable about a respective central position (mounts 6/7 inherently vibrate since they are mechanically connected to a helicopter frame, Fig.4, for instance).

Regarding claims 8-9, each of the vibratable first mount 6/7 and the vibratable second mount 12 are mounted on and integral with a common base 9 (Fig.1).

6. Claim 1 is rejected under 35 U.S.C. 102(a/e) as being anticipated by Gerber et al. (US 6,772,592). Gerber teaches an electromagnetic generator comprising two magnets (one or more cylindrical magnets) 74 and a coil 76 disposed therebetween (Figs.4&6, c.5:28-45), the two magnets 74 being configured to define therebetween a region of magnetic flux in which the coil is disposed whereby relative movement between the coil 76 and the magnets 76 generates an electrical current in the coil (c.5:45-49), and a vibratable first mount (shell) 30 (shell 30 'vibrates' since it is connected to oscillating float 106 by rod 90, c.6:8-10; Fig.6) for each of the magnets and a vibratable second mount (float) 42 (float 42 'vibrates since it is connected by

Art Unit: 2834

diaphragm 46/56 to shell 30, Fig.4) for the coil 76 whereby each of the at least two magnets 74 and the coil 76 are respectively vibratable about a respective central position (i.e., float/magnets 106/74 and coil 76 each move relative to passing wave; Fig.6).

### ***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 1, 4 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Umehara (JP 09-093901) in view of Cheung et al. (US 7,009,310). Umehara teaches a resonant vibrating motor comprising two magnets 10 and a coil 8 disposed therebetween (Fig.8), the two magnets 10 being configured to define therebetween a region of magnetic flux in which the coil 8 is disposed whereby relative movement occurs between the coil and the magnets when an electrical current is in the coil (i.e., motor operation), and a vibratable first mount 14 for each of the magnets 10 and a vibratable second mount 1 for the coil 8 (with respective fulcrum points 4/4a and 5/5a) whereby each of the at least two magnets 10 and the coil 8 are respectively vibratable about a respective central position.

Umehara differs in that it functions as a motor, not a generator, i.e., there is no current generated in the coil 8 by movement of the magnets 10.

Cheung teaches an autonomous power source comprising a moveable structure (Fig.1) which vibrates a coil 14 and magnet 16 system to convert motion to energy (c.1:46-48).

Art Unit: 2834

It would have been obvious to modify Umehara and provide a vibrating coil and magnet generator system per Cheung to convert motion to energy.

Regarding claim 4, in Umehara Fig.8, each of the vibratable first mount and the vibratable second mount comprises a cantilever beam.

Regarding claim 8, in Umehara each of the vibratable first mount and the vibratable second mount are mounted on a common base 3 (Fig.8).

9. Claims 1 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shimakawa et al. (US 5,894,263) in view of Cheung et al. (US 7,009,310). Shimakawa teaches an electromagnetic vibration generator comprising two magnets 12 and a coil 14 disposed therebetween (Fig.1), the two magnets being configured to define therebetween a region of magnetic flux in which the coil is disposed and a vibratable first mount (resilient plate) 9 for each of the magnets 12 and a vibratable second mount (resilient plate) 10 for the coil 14 whereby each of the at least two magnets and the coil are respectively vibratable about a respective central position (abstract).

Shimakawa's device functions as a motor, not an electrical generator. In other words, the vibration generator transforms electricity in the coil 14 into mechanical movement of the magnets 12. Thus, Shimakawa does not teach "relative movement between the coil [14] and the magnets [12] generates an electrical current in the coil".

Cheung teaches an autonomous power source comprising a moveable structure (Fig.1) which vibrates a coil 14 and magnet 16 system to convert motion to energy (c.1:46-48).

It would have been obvious to modify Shimakawa and provide a vibrating coil and magnet generator system per Cheung to convert motion to energy.

Art Unit: 2834

Regarding claim 8, in Shimakawa each of the vibratable first mount and the vibratable second mount are mounted on a common base 8 (Fig.1).

***Allowable Subject Matter***

10. Claims 2-3, 6-7 and 10 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The prior art does not teach the claimed generator including, inter alia, “the vibratable first mount and the vibratable second mount are adapted to vibrate out of phase when excited to vibrate by a common input of vibration energy, so that the coil and its respective magnets vibrate out of phase with each other” (claim 2); or “the cantilever beam of each vibratable first mount is substantially the same length as the cantilever beam of the vibratable second mount” (claim 6); or “each magnet is mounted at a free end of the cantilever beam of each vibratable first mount and the coil is mounted at a free end of the cantilever beam of the vibratable second mount” (claim 7); or “the at least two magnets and the coil are mounted along a common axis” (claim 10).

***Conclusion***

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to BURTON MULLINS whose telephone number is (571)272-

Art Unit: 2834

2029. The examiner can normally be reached on 9-5. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Q.Leung can be reached on (571)272-8188. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/BURTON MULLINS/  
Primary Examiner, Art Unit 2834

bsm  
24 March 2009